Mars Rover Kata

Overview

Please write code delivering the requirements that follow. Write code that you would be happy delivering to a paying client, keeping in mind the simplicity comments below.

You should not find this test to be particularly difficult. It is designed to be a straightforward coding exercise and it should take you around 1-2 hours. One thing we're interested in is to see which compromises you make to stay in this sort of timeframe. It's more important that we can see how the development would continue than for every feature to be present.

What we are looking for:

Test Coverage: The solution should be developed "test-first", and should have excellent unit tests and test coverage.

Simplicity: We value simplicity as an architectural virtue and a development practice. Solutions should reflect the difficulty of the assigned task, and should not be overly complex. Layers of abstraction, patterns, or architectural features that aren't called for should not be included.

Self-explanatory code: The solution you produce must speak for itself. Multiple paragraphs explaining the solution are a sign that it isn't straightforward enough to understand purely by reading code, and are not appropriate.

Deliverable

Include a readme: Please include a readme file in the root of the project which states any requirements and commands needed to run the code. Assume the reviewer is unfamiliar with your choice of framework and/or build tools and maybe using a different IDE.

Please include the version from the footer of this document in the README as well.

Problem Description

You are part of the team that explores Mars by sending remotely controlled vehicles to the surface of the planet. Write an idiomatic piece of software that translates the commands sent from earth to actions executed by the rover yielding a final state..

When the rover touches down on Mars, it is initialised with its current coordinates and the direction it is facing. These could be any coordinates, supplied as arguments `(x, y, direction)` e.g. `(4, 2, EAST)`.
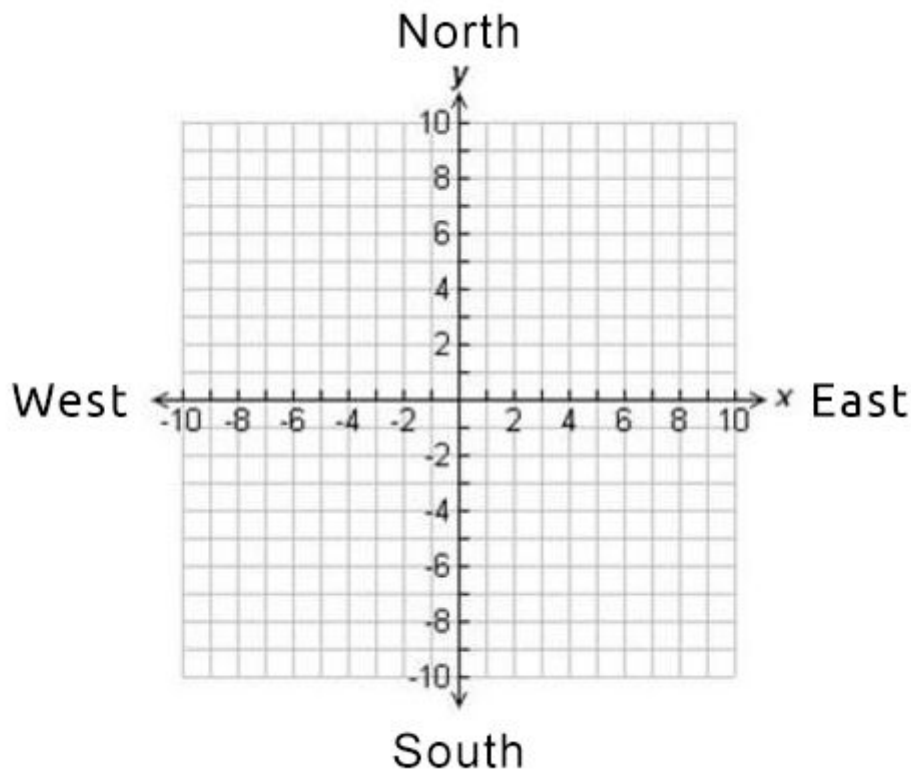
Part I

The rover is given a command string which contains multiple commands. This string must then be broken into each individual command and that command then executed. Implement the following commands:

```
F -> Move forward on current heading
B -> Move backwards on current heading
L -> Rotate left by 90 degrees
R -> Rotate right by 90 degrees
```

An example command might be `FLFFFRFLB`

Once the full command string has been followed, the rover reports it's current coordinates and heading in the format `(6, 4) NORTH`

Approach

You should tackle this problem as you would any real world requirement that would be shipped as part of a real product. You should showcase how you work and the way you decompose a problem into smaller pieces.